

1 ABSTRACT

2 A tunable optical fiber has a grating which is attached to
3 an expander responsive to an external control including a
4 temperature or a magnetic field. The expander changes
5 length, and this is coupled to the optical fiber, which
6 changes pitch, thereby accomplishing a tuning change. The
7 expander may be coupled to the grating directly, or through
8 an expansion reducer, which produces a greater range of
9 tuning. Terfenol-D™ may be used for the expander material,
10 and tubes which include a bonding point adjacent to the
11 extents of the grating may form the extent reducers.